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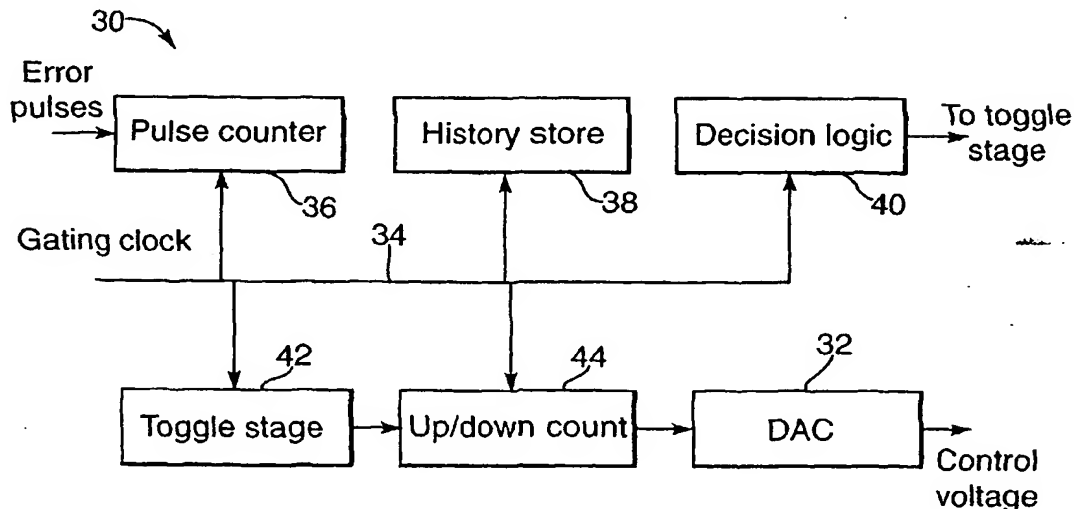
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(54) Title: CONTROL OF AVALANCHE PHOTODIODES BIAS VOLTAGE



(57) **Abstract:** An optical communications system uses forward error correction (FEC) to correct errors in signals carried by the system. Optical signals on the system are dropped at nodes and converted to electrical signals by avalanche photodiodes (APDs) at the node receivers. A FEC chip operates on the electrical signal to correct errors. The error rate is used to control the APD bias voltage which affects signal noise and therefore, error rate. The errors in a predetermined interval are counted and a determination made as to whether the error rate is rising with time. The bias voltage is derived from the value of a counter whose count is incremented each interval. If the error rate is rising, the counting direction is changed.

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